

### **REMARKS**

Reconsideration and allowance of the present application are respectfully requested.

Claims 1-17 remain pending in this application. Claims 1-9 and 12-17 are withdrawn. Claim 10 has been amended as supported in the present specification including in Examples 1-7 where particularly at page 31, lines 1-19, there is described only one calcining step (960° C, 1 hour) as being carried out..

No new matter has been added.

In response to the rejection of claims 10-11 under 35 USC 112, second paragraph, the applicants have amended claim 10 as shown above to delete the word “using” and word “it” to which the Examiner objected. Claim 10 has further been amended to clarify the single active, calcining process step. The applicants submit that claim 10 is fully allowable under Section 112, second paragraph. Withdrawal of this rejection is respectfully requested.

The applicants respectfully traverse the rejection of claims 10 and 11 under 35 USC 103(a) in view of the cited reference of Foulger et al.

This reference does not make the presently claimed invention to be obvious.

The presently claimed invention solves the problem of low opacity which occurs when the particle diameter of an anatase type titanium dioxide pigment is too small as compared with optimum particle diameter which can theoretically provide the highest opacity (see present specification at page 2, lines 9-13).

The object of the invention disclosed in Foulger et al is to provide anatase titanium dioxide having a large crystal size (see Column 1, lines 4-6). This object

is accomplished by adopting the complex multiple calcining steps as shown in Foulger claim 1.

In contrast, according to the present invention, anatase titanium dioxide having a large crystal size, excellent whiteness and high opacity can be provided as described in the present specification at page 4, lines 2-17 and page 5, lines 11-19, by a simple one calcining step as in the present invention as recited in amended claim 1, above.

Foulger does not disclose nor suggest a single calcining step. Accordingly, the applicants submit that the presently claimed invention is not obvious under 35 USC 103(a) in view of Foulger et al.

Additionally, another important and distinguishing feature of the presently claimed invention is the ratio  $K_2O/P_2O_5$ , which is in the range of 1.5/1-10/1, as recited in claim 1, above. By setting this ratio, according to the present invention, without adopting the complex calcination profile disclosed at column 3, lines 15-57 of Foulger, anatase titanium dioxide having a large crystal size, excellent whiteness and high opacity can be provided only by defining the upper limit of the temperature of the calcining step as in the present invention recited in claim 1, above.

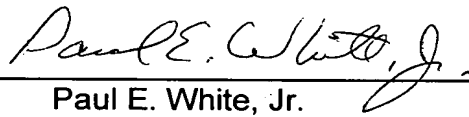
Foulger does not disclose or suggest the utility of the ratio employed in the presently claimed invention. The ratio adopted in the Foulger Example is  $K_2O/P_2O_5 = 0.30/0.99 = 0.77$  (see column 4, line 43 of Foulger) which is out of the scope of the present invention and corresponds to the comparative Examples 1-6 of the present application ( $K_2O/P_2O_5 = 0.5$  to 1, Table 1).

Accordingly, the applicants submit that the present invention as recited in claims 10 and 11 are fully allowable under Section 103(a) in view of the cited art.

In view of the above, it is believed that the present application is in condition for allowance and a Notice to that effect is respectfully requested.

Respectfully submitted,

MANELLI DENISON & SELTER, PLLC

By 

Paul E. White, Jr.

Reg. No. 32,011

Tel. No.: (202) 261-1050

Fax No.: (202) 887-0336

2000 M Street, N.W.  
Seventh Floor  
Washington, D.C. 20036-3307  
(202) 261-1000